

# Dust: Fugitive Dust Regulations

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Quality

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# Introduction

**Today I will be discussing;**

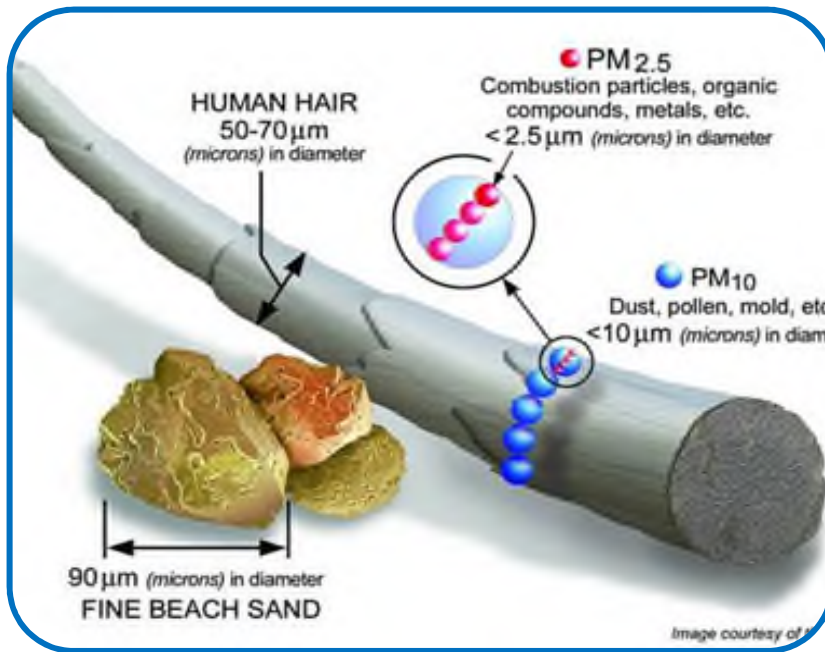


- Air pollutants
- Why it's important to control dust
- Laws (acts), rules, and regulations pertaining to fugitive dust
- Air Quality Division (AQD) staff roles
- Owner/Operator roles and assistance
- Fugitive dust complaints
- Visible emissions (opacity)

# Air Pollutants

- **Criteria Pollutants**
  - There are six Criteria Pollutants
    - Particle Pollution ( $PM_{10}$  and  $PM_{2.5}$ ), Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide ( $NO_2$ ), Ozone ( $O_3$ ), Sulfur Dioxide ( $SO_2$ )
  - Can harm health and environment
  - Can cause property damage
- **Hazardous Air Pollutants (HAP's)**
  - 187 HAP's

# Particulate Matter Definition



Particulate matter means any air contaminant existing as a finely divided liquid or solid, other than uncombined water, as measured by a reference test specified in R336.2004(5) or by an equivalent or alternative method.

# Fugitive Dust Definition



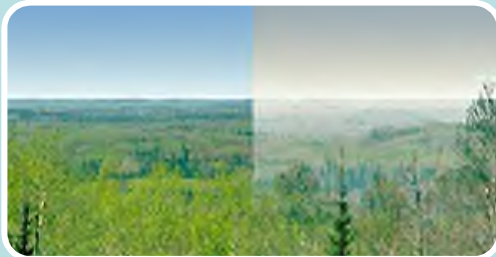
Fugitive dust means particulate matter which is generated from indoor processes, activities, or operations and which is emitted into the outer air through building openings and general exhaust ventilation, except stacks. The term also means particulate matter which is emitted into the outer air from outdoor processes, activities, or operations due to the forces of the wind or human activity

# Reasons to Control Dust

Three reasons the EPA and DEQ created rules and regulations to control fugitive dust are:



Health effects



Visibility reduction



Nuisances/Aesthetic damage

# Acts and Regulations/Rules

## Acts

- Written by Congress/Legislature
- Provide the authority for EPA/DEQ to write regulations

## Regulations /Rules

- Explain the technical, operational, and legal details necessary to implement laws
- Code of Federal Regulations
- Air Pollution Control Rules



# Fugitive Dust Regulations

## State of Michigan



- Article II, Part 55 of the Natural Resources and Environmental Protection Public Act 451 (NREPA)
- Air Pollution Control Rules
  - Rules 301, 303, 371, 372, 901

## Federal



- Clean Air Act
- Title 40: Protection of the Environment
  - New Source Performance Standards



# NREPA

## Authority of DEQ and Fugitive Dust Regulations

NREPA provides DEQ's inspection authority and fugitive dust control measures in:

- Section 5526
- Section 5524

# NREPA

## Section 5526

### Field Operations Section Authority

- **Enter and inspect a facility**
  - Compliance and complaint investigations
    - Equipment
    - Records
- **Have access to records**
  - Records required pursuant to this part
  - MAERS reports
  - Other data
- **Sample and/or monitor**
  - Conduct visual emission (VE) observations
  - Observe stack testing
  - Material sample collection

# Owners/Operators Responsibilities

**Owners/Operators of air pollution emission sources are responsible for:**

- Identifying emission sources at their facility that are subject to air quality regulations
- Determining state and federal air quality regulations that are applicable to their operations
- Ensuring their facility is operating in accordance with all applicable state and federal regulations

# Compliance Assistance

## AQD compliance assistance resources for owners/operators

- The Michigan Clean Air Assistance Program (CAAP)
- Help for companies with fewer than 100 employees understand and comply with Federal and State Regulations
  - Environmental Assistance Center
    - Produces training events
    - Offers one-on-one telephone assistance: 800-662-9278
    - Develops “plain English” publications

# Sources of Fugitive Dust

## Industrial Sectors

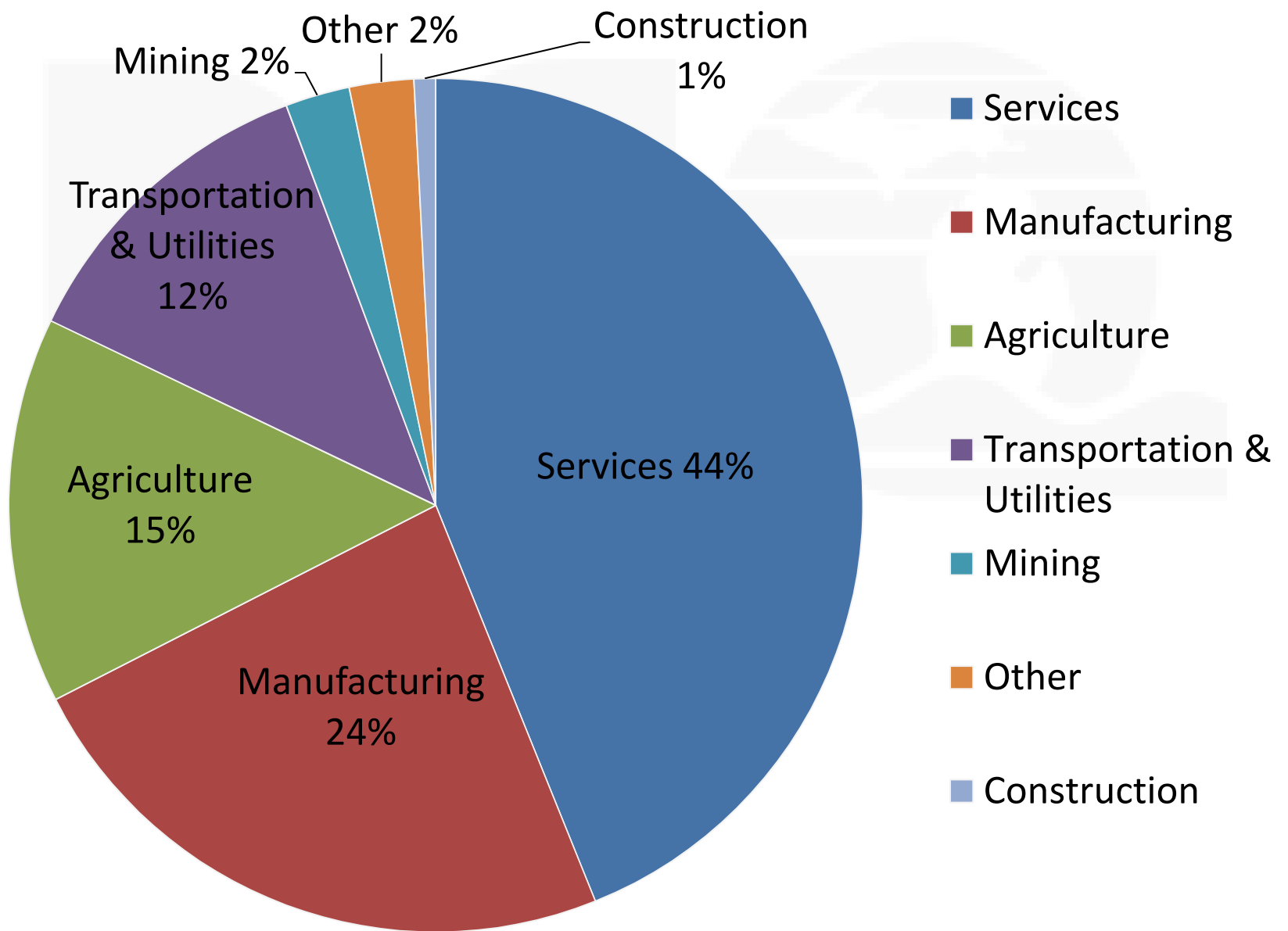
- Services
- Manufacturing
- Agriculture
- Transportation & Utilities
- Mining
- Construction
- Wholesale/Retail Trade

# Fugitive Dust Complaints

January 2015 – December 2015

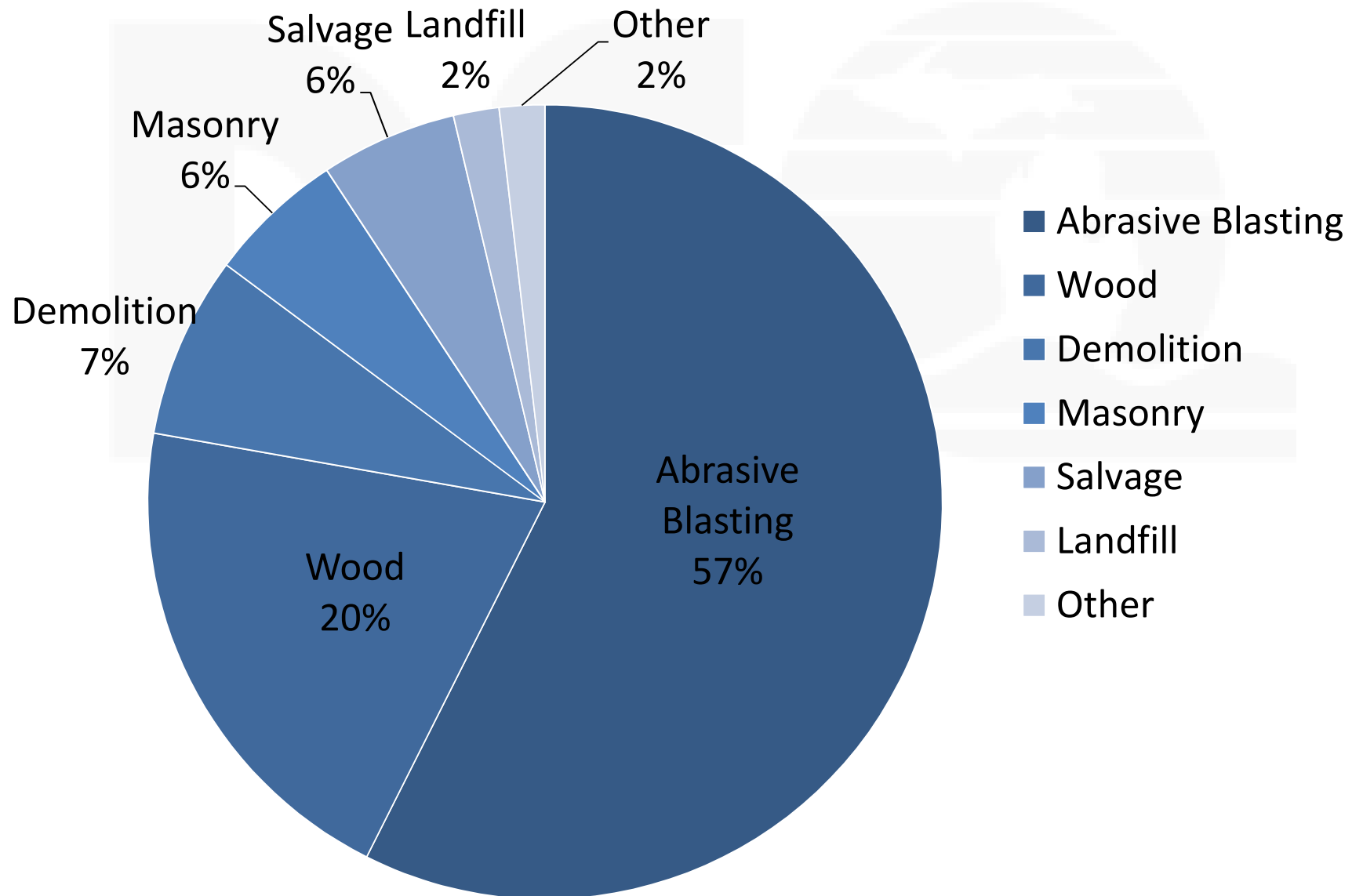
- AQD received 123 complaints that dealt specifically with fugitive dust across Michigan
- Three industrial sectors most commonly identified by complainants:
  - Services
  - Manufacturing
  - Agriculture

# Complaints by Industrial Sector

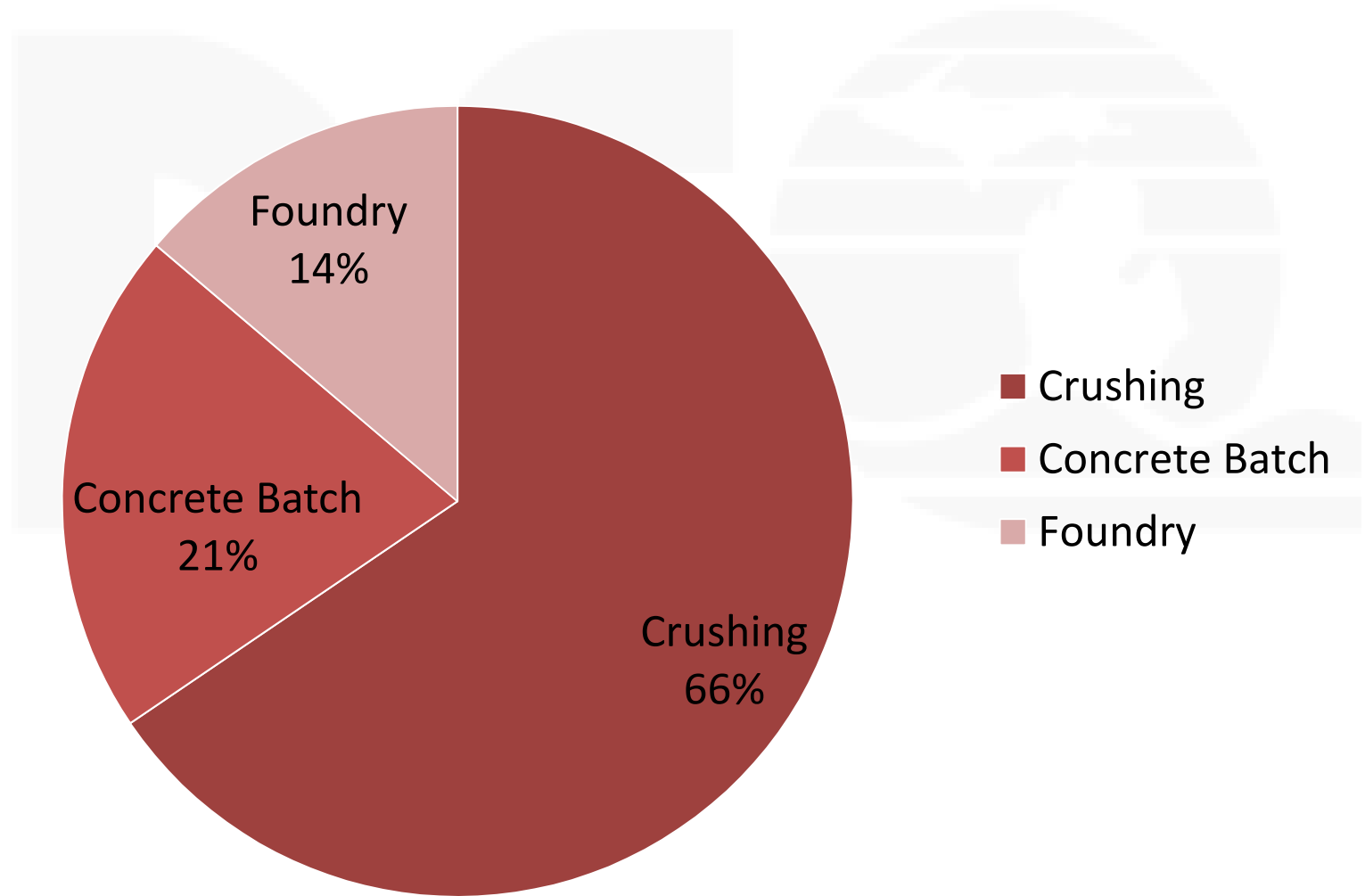




# Services by Source



# Manufacturing by Source



# NREPA

## Section 5524

### Fugitive Dust Sources or Emissions

#### Applies to

- Specific Industrial Classifications
- Specific Geographical Areas that are listed in Table 36 of Rule 371

#### Contains

- Opacity Limits
  - Method 9d
- Fugitive Dust Control Measures

# NREPA

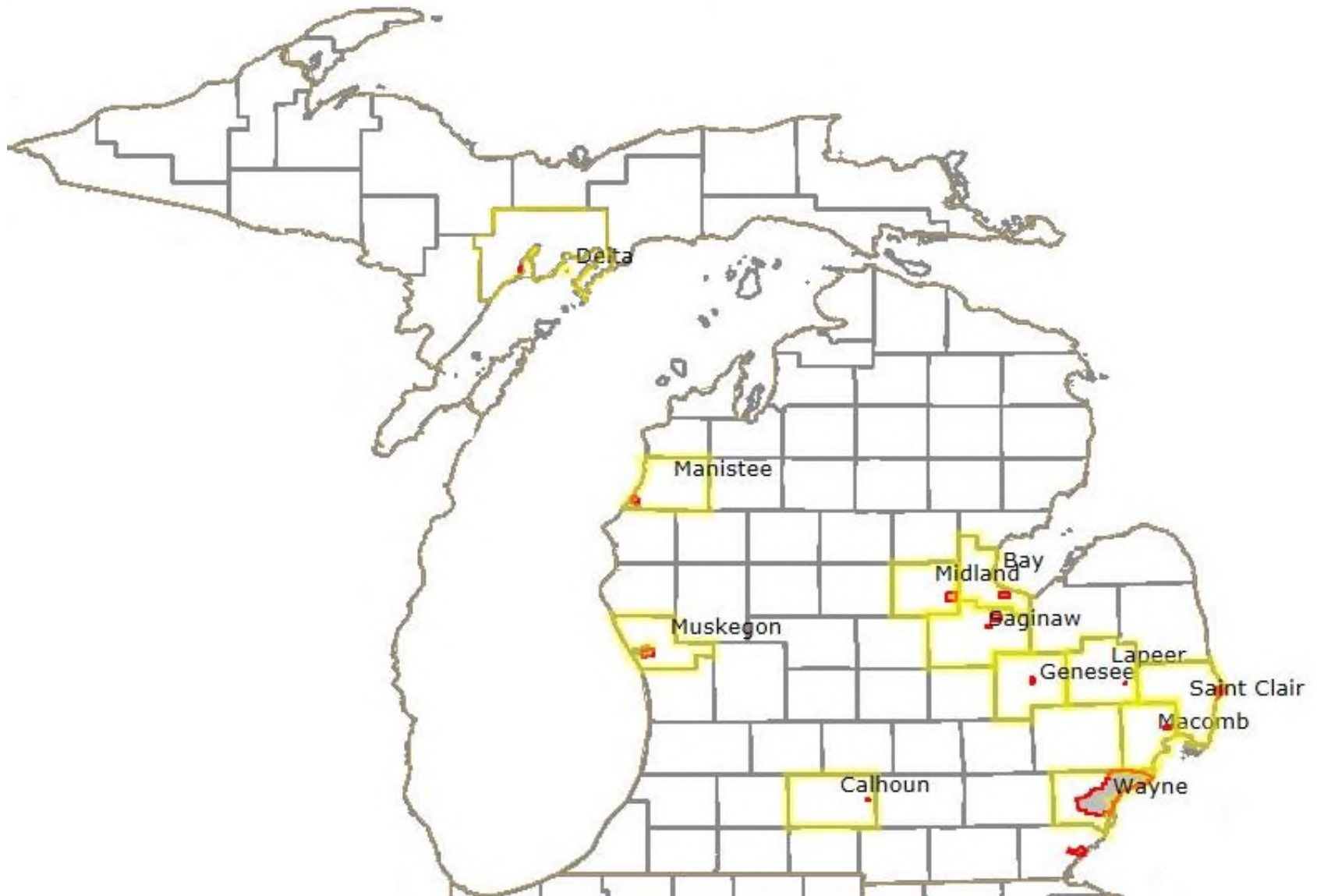
## Section 5524: Fugitive dust sources or emissions

### Source Categories

- Mining operations standard industrial classification (SIC) major groups 10 through 14
- Manufacturing operations SIC major groups 20 through 39
- Railroad Transportation groups 40
- Motor Freight Transportation group 42
- Electric Services SIC group 491
- Sanitary Services SIC group 495
- Steam Supply SIC group 496

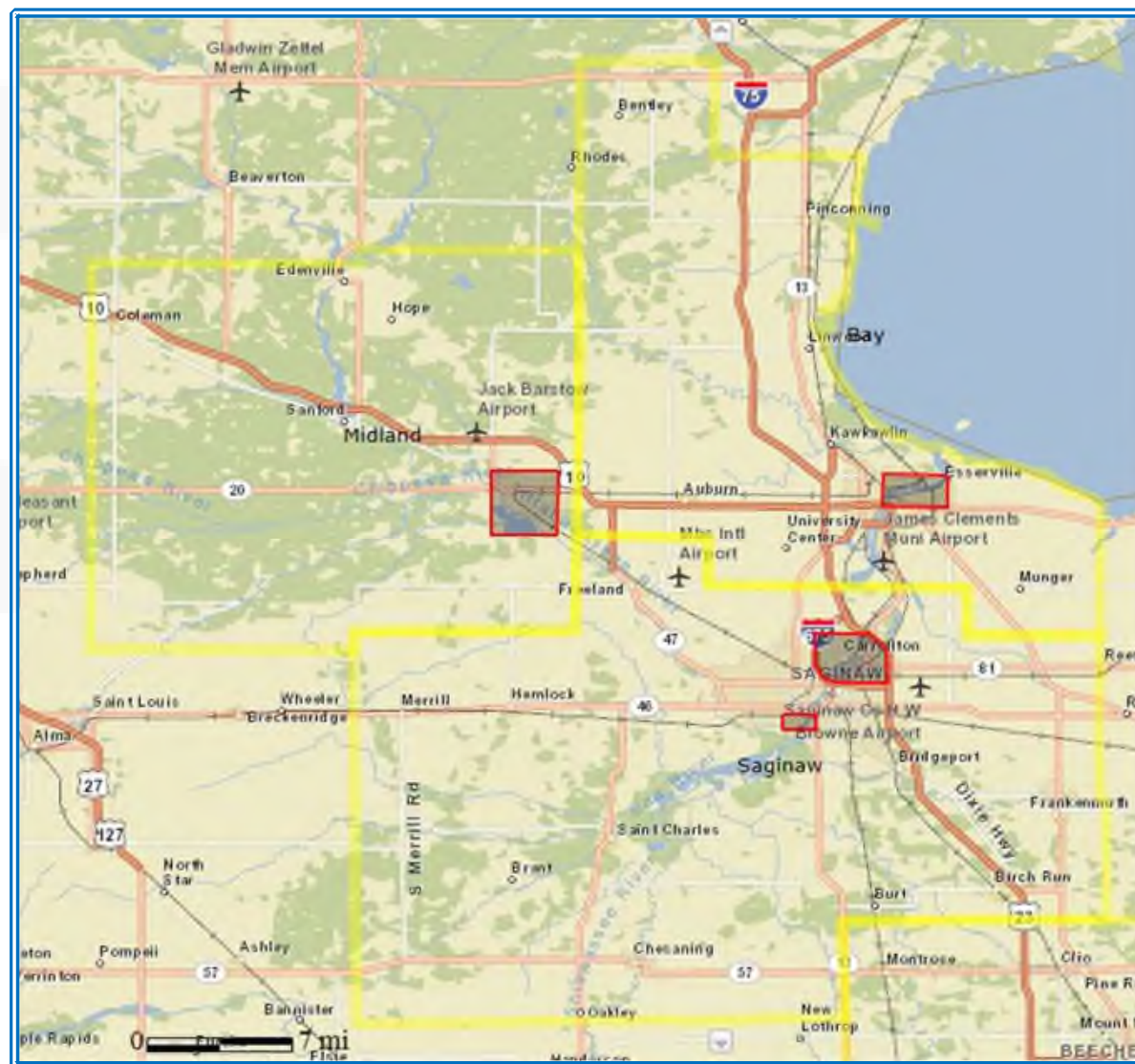
County	Area
Bay	T14N, R5E, Sections 14 to 16 and 21 to 23.
Calhoun	T2S, R4W, Section 34.
Delta	T39N, R22W, Sections 19, 30, south one-half of 17, and south one-half of 18.
Genesee	Starting on Industrial Avenue, north to Pierson Road, east to Dort Highway, south to Hitchcock Street, south to Olive Avenue (extended), south to Robert T. Longway Boulevard, west and southwest to Industrial Avenue.
Lapeer	7N, R12E, that portion of Section 17 which lies south of M-21 and east of Fairground Road. Macomb T4N, R14E, Sections 27, 28, 33, and 34.
Manistee	T21N, R16W, sections 7, 18, and 19; T21N, R17W, Sections 12 and 13.
Midland	T14N, R2E, Sections 14 to 16, 21 to 23, 26 to 28, and 33 to 35.
Monroe	Starting where Sandy Creek empties into Lake Erie, northwest to Maple Avenue (extended north-northeast), southwest to Elm Avenue, west to Herr Road, south to Dunbar Road and east to Plum Creek (which empties into Lake Erie).
Muskegon	T9N, R16W, Sections 5 and 6; T10N, R16W, Sections 21, 22, and 27 to 34.
Saginaw	Northeast section: starting on Tittabawassee Road, east to I-75, south to Wadsworth Avenue, west to I-675, west and north to Tittabawassee Road. Southwest section: T12N, R4E, the eastern half of Section 34 (that which is east of Maple Street) and Section 35.
St. Clair	T6N, R17E, Sections 2 to 4, 9 to 11, 14 to 16, 21, 22, and 28.
Wayne	Area included within the following (counter clockwise): Lake St. Clair to Moross Road to Seven Mile Road to Vandyke Road to Eight Mile Road to Wyoming Road to Seven Mile Road to Schaeffer Road to Fenkell Road to Greenfield Avenue to Joy Road to Southfield Expressway to Ford Road to Telegraph Road to Cherry Hill Road to Beech-Daly Road (extended) to Michigan Avenue to Inkster Road to Carlisle Street to Middle Belt Road to Vanborn Road to Wayne Road to Pennsylvania Road to Middle Belt Road to Sibley Road to Telegraph Road to King Road to Grange Road to Sibley Road to Jefferson Avenue to Bridge Street (Grosse Ile) extended to Detroit River. Also included is that portion of the City of Riverview which is south of Sibley Road and the City of Trenton.

# Geographical Areas covered in Section 5524



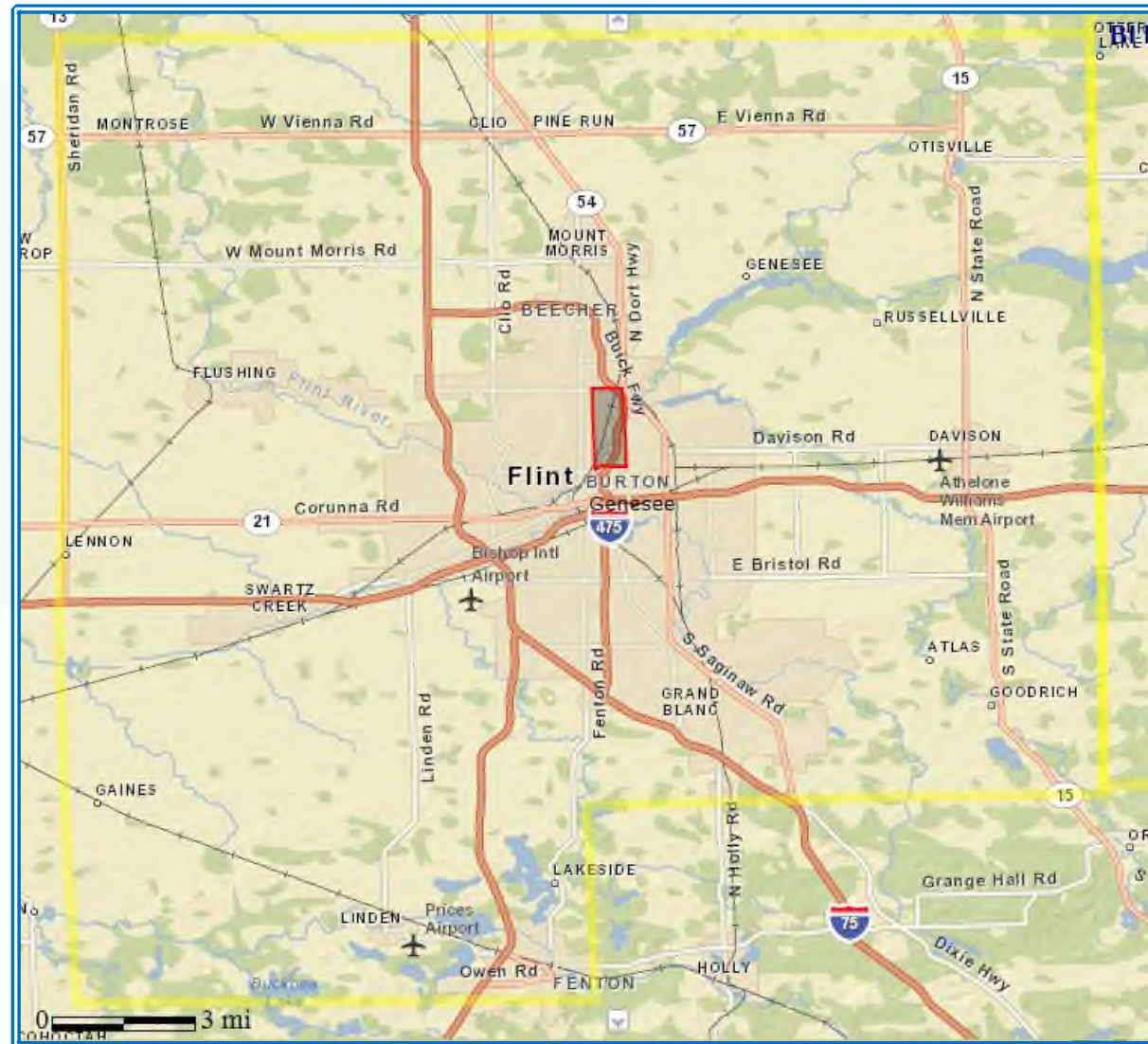


# Saginaw, Bay, and Midland Counties

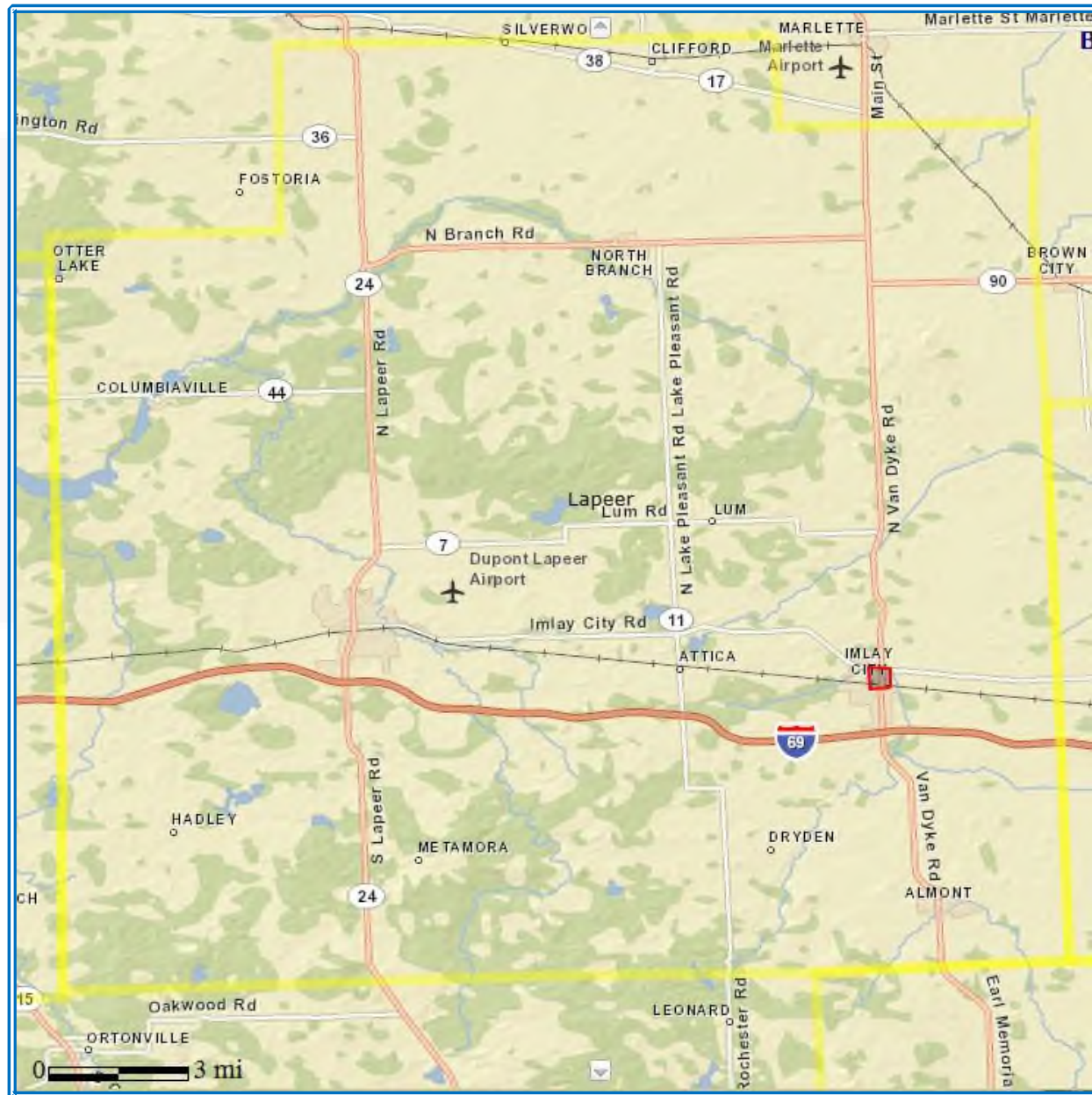




# Genesee

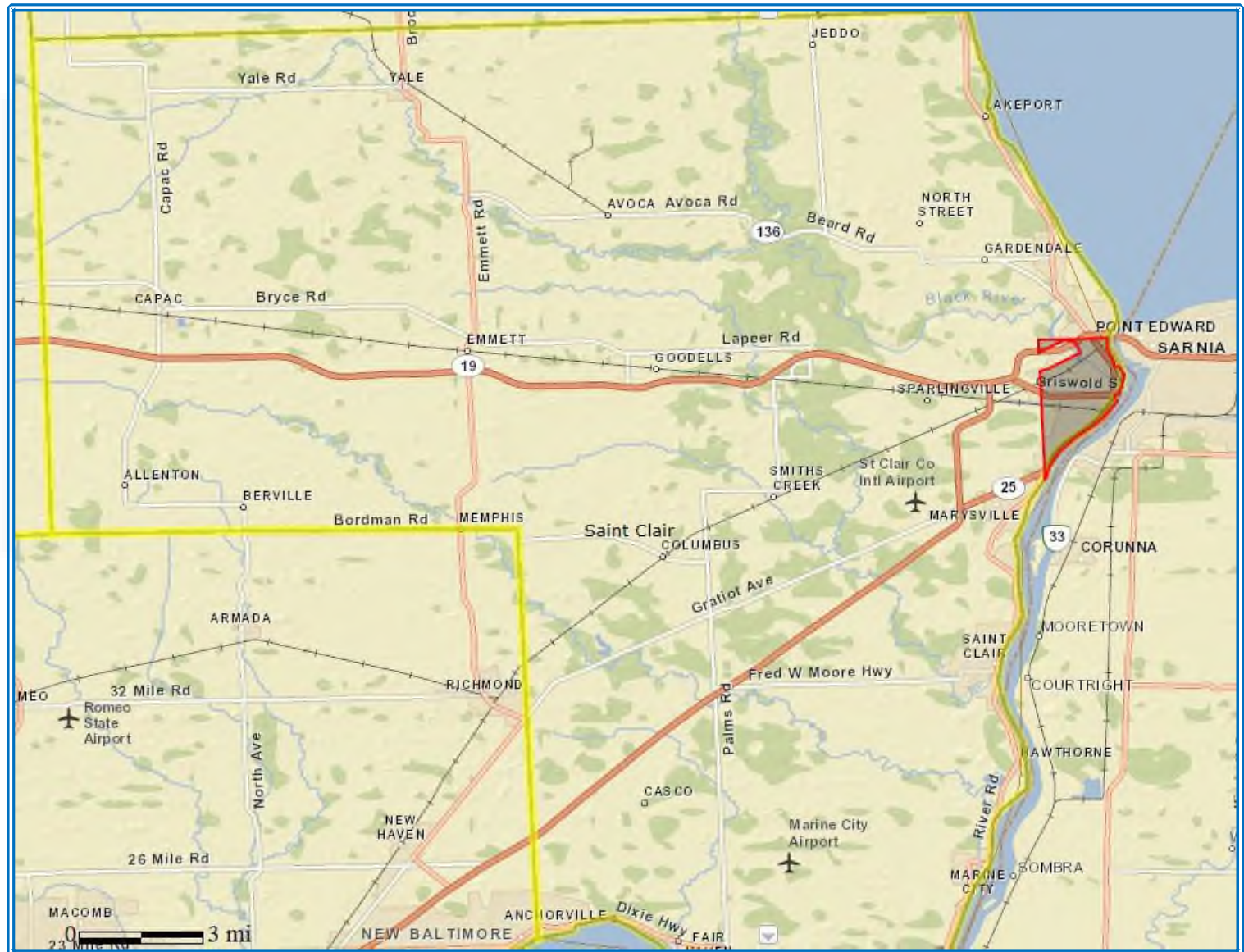


# Lapeer County





# St. Clair County

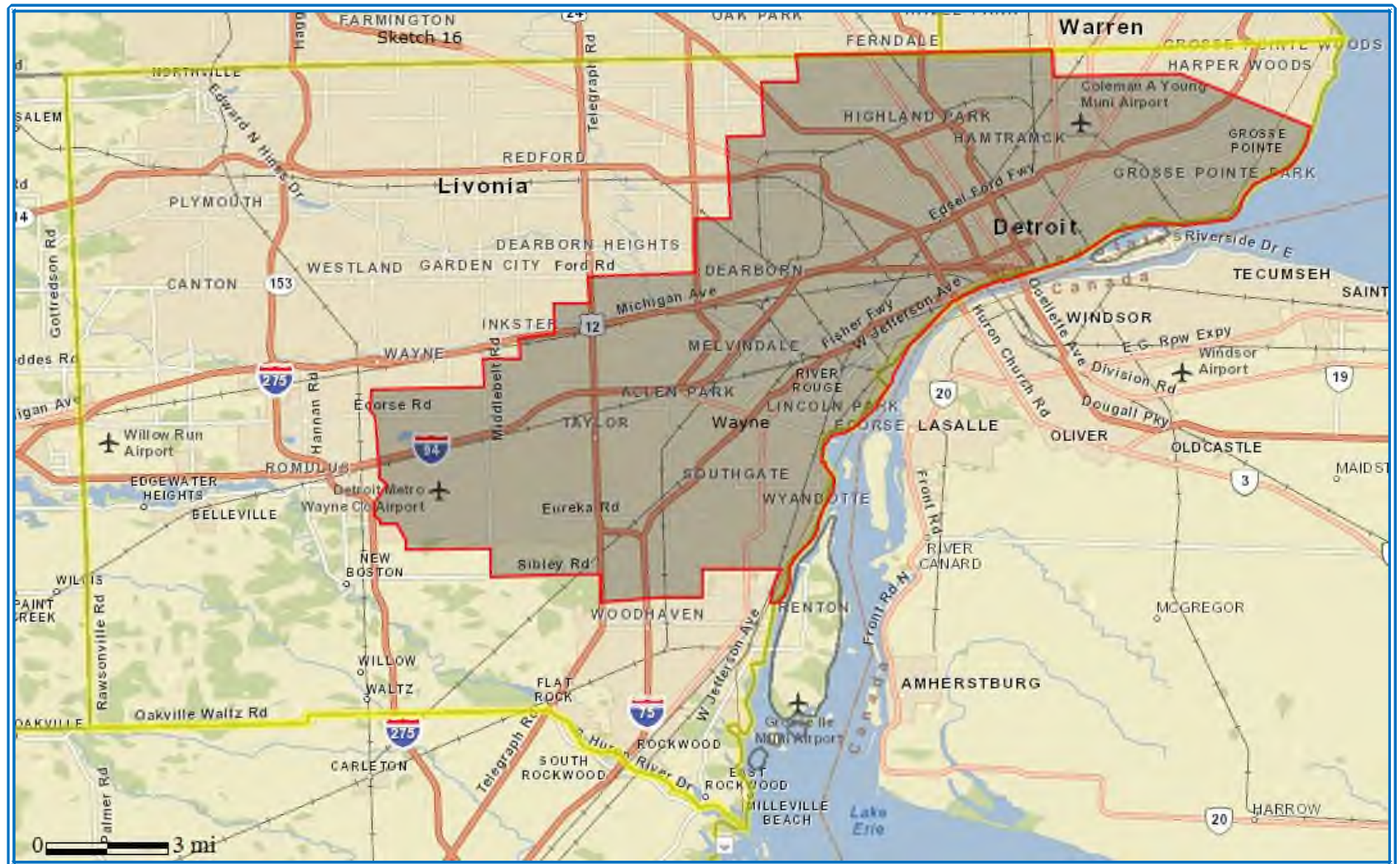


# Macomb County





# Wayne County



# Monroe County





# **NREPA**

## **Section 5524**

### **Fugitive Dust Emission Limits**

- Roads, lots, or storage piles, including any material handling activity at a storage pile: 5%
- Any other fugitive dust source: 20%
- The provisions of this subsection shall not apply to storage pile material handling activities when wind speeds are in excess of 25 miles per hour (40.2 kilometers per hour)



# **NREPA Section 5524**

## **Fugitive Dust Requirements**

Lists required procedures for controlling fugitive dust from:

- Storage piles
- Batch loading operations
- Unloading storage piles
- Traffic pattern access areas
- Unloading/transporting operations
- Crushers, grinding mills, screens, bucket elevators, conveyor transfer points, conveyor bagging operations, storage bins, truck and rail car loading
- Transport vehicles
- Baghouse emission limits

# Part 2 Rules

## AIR USE APPROVAL

### Rule 201: Permit to Install

#### General

- Streamlined permitting alternative available at: <http://www.deq.state.mi.us/aps/generalpermits.shtml>
- Must meet specified applicability criteria
- Contains fugitive dust control measures based on R 324.5524 and R 336.1372

#### Site Specific

- Limits and conditions based on specific equipment, control, and location parameters
- Contains fugitive dust control measures based on R 324.5524 and R 336.1372

# Part 3 Rules

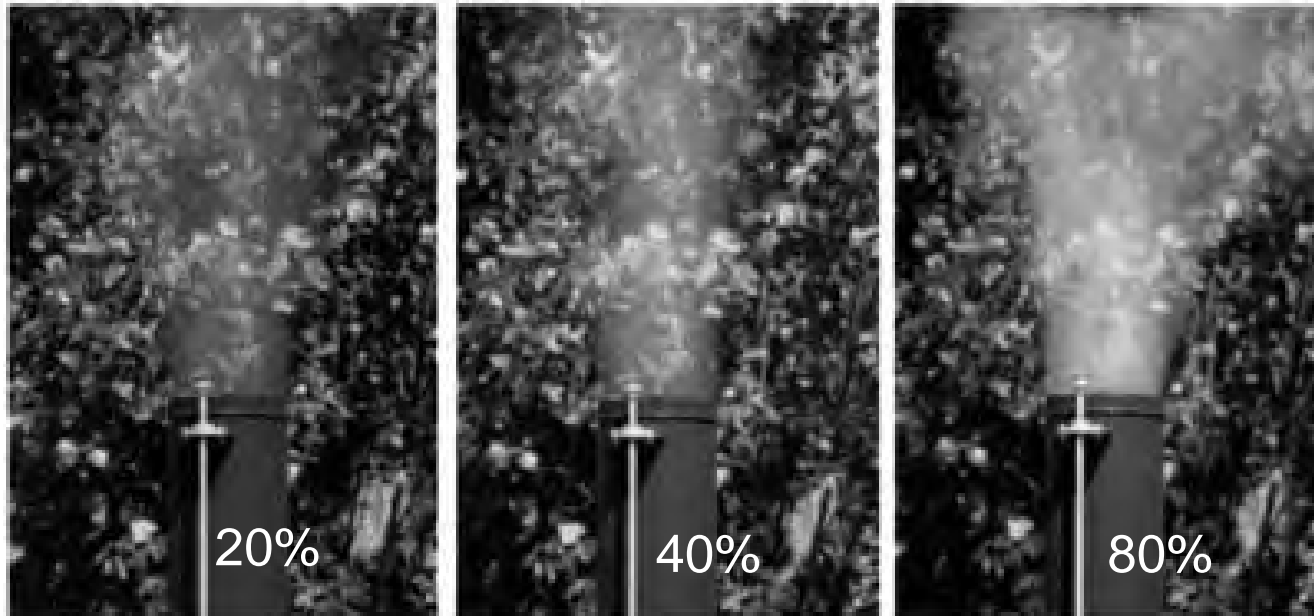
## Emission Limitations and Prohibitions – Particulate Matter

### Rules Addressing Fugitive Dust

- Rule 301: Standards for density of emissions
- Rule 303: Grading visible emissions
- Rule 371: Fugitive dust control programs other than areas listed in table 36
- Rule 372: Fugitive dust control program; required activities; typical methods

# Opacity Defined

The DEQ defines opacity as the degree to which an emission reduces the transmission of light or obscures an observer's view



# Part 3 Rules

## Rule 301: Standards for density of emissions

### Visible emission density (Opacity)

- Limited to the most stringent of:
  - Six minute average of 20% (except for 1 6-minute average per hour of not more than 27% opacity)
  - Applicable NSPS limit
  - PTI limit
- Test Method
  - Method 9
  - Method 9d
  - Method 22

<b>Test Method</b>	<b>Certification Required?</b>	<b>Applicable to Fugitive Emission Sources?</b>	<b>What is Measured?</b>	<b>Citation?</b>
<b>Method 9</b>	Yes	Yes	Percentage background light is reduced	40 CFR 60 Appendix A-4
<b>Method 9d</b>	Yes (Method 9)	Yes	Percentage background light is reduced	NREPA Act 451, Section 5525
<b>Method 22</b>	No	Yes	Length of time emissions are observed	40 CFR 60 Appendix A-7

Method 9	Method 9d	Method 22
24 consecutive observations at 15-second intervals (6 minute average)	12 consecutive observations recorded at 15-second intervals (3 minute average)	Specified in applicable regulations
Line of vision perpendicular to plume direction	Line of vision perpendicular to plume direction	Observation location consistent with the requirements of the applicable regulation
Clear view of plume with sun within 140 degree sector behind observer	<b>Sources other than roads and parking lots:</b> Clear view of source, sun behind observer, and at least 15 feet from source	Clear view of the potential emission point(s), sun to back, contrasting background, at least 15 feet from source but no more than 25 feet
Opacity read at point of highest opacity in plume	<b>Sources other than roads and parking lots:</b> Opacity read at point of highest opacity <b>Roads and parking lots:</b> Opacity read 4 feet directly above surface of road or parking area from which emissions are being generated at point of maximum opacity	
	<b>Roads and parking lots:</b> Readings suspended if <ul style="list-style-type: none"> <li>• Vehicle in line of sight</li> <li>• Vehicle passes through the area traveling in the opposite direction and creates a plume that is intermixed with the plume being read</li> </ul>	



# Part 3 Rules

## Rule 303: Grading visible emissions

Determined by a certified observer

**VISIBLE EMISSIONS EVALUATOR**

**Kerry Kent**

This is to certify that the above named observer has met the specifications of Federal Reference Method 9 and is qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no single error exceeding 15% opacity was incurred during the certification test conducted by Technical Associates. This certificate is valid for six months from date of issue.

3-336  
Certificate #

KEL49255  
Student ID Number

10/7/2015  
Date of Certification

Detroit, MI  
Location

4/7/2016  
Certification Expiration Date

4/7/2015  
Last Lecture

Director of Training

# Part 3 Rules

## Rule 371: Fugitive dust control programs other than areas listed in Table 36

AQD can request a person who is responsible for the operation of any facility which processes, uses, stores, transports, or conveys bulk materials submit a fugitive dust control program



# Fugitive Dust Control

**Rule 372: Fugitive dust control program; required activities;  
typical control methods**



# Conclusion

- Laws (acts), rules, and regulations
  - CAA, NREPA, Title 40, Air Pollution Control Rules
- Air pollutants
  - Criteria and hazardous air pollutants
- Sources of fugitive dust complaints
  - Services, manufacturing, agricultural
- Method 9, 9D, 22

# Michigan Department of Environmental Quality

800-662-9278

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